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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,072	03/03/2004	Hideyuki Kakinuma	4296-171 US	4211
7590 02/08/2006 Mathews, Collins, Shepherd & McKay, P.A. Suite 306 100 Thanet Circle Princeton, NJ 08540			EXAMINER DESAI, ANISH P	
			ART UNIT 1771	PAPER NUMBER

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/792,072		KAKINUMA ET AL.	
	Examiner		Art Unit	
	Anish Desai		1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>06/01/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-11 in the reply filed on 01/13/06 is acknowledged. The traversal is on the ground(s) that the search of Group I claims would reveal the search for the Group II claims. This is not found persuasive because of the reasons set forth in the Office action dated 12/21/05.

Applicants are reminded of their right to request rejoinder of method claims with the product claims upon indication of the product claims as being allowable. The method claims must be commensurate with the allowed article claims, i.e. have been amended to recite all the features of the allowed article claims. See In re Ochiai 37 USPQ2d 1127.

Specification

2. The amendments to the Specification received on 01/06/06 are entered because they do not change the scope of the present invention.

Claim Objections

3. Claims 3, 7 and 11 are objected because of inconsistent preamble: Claims 3, 7, and 11 recite "polyolefin foam" in the body of the claim whereas the independent claims 1 and 8 recite "A pre-applied outer layer material" in the preamble. However, the body of the claims 3, 7, and 11 further requires polyolefin foam. Therefore, it is unclear as to whether the applicant wants to claim the pre-applied outer layer material taken alone or in combination with the polyolefin foam? It is suggested that claims 3 and 11 should be

Art Unit: 1771

written preferably as "A composite material comprising a pre-applied outer layer material of claim 1..." Appropriate correction is required.

4. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 9 recites the weight ratio of (A)/(C) is in the range of 100/30-100/60 which is not within the range disclosed in the claim 8 from which the claim 9 depends.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-11 recite "having applied in advance". It is unclear as to what applicant means by "having applied in advance". The recitation "in advance" renders the claims vague and indefinite because the claim does not set forth any other layers being applied after the hot melt is applied to the back surface of an automotive interior. Further there are too many "surfaces" recited by claims 3 and 11. It is not clear which surface is referred to as the surface of the polyolefin foam. The language of the claims appears to be grammatically ambiguous so that the spatial relationships of individual layers are unclear. The scope of the claims becomes unclear

Art Unit: 1771

since various interpretations are possible but do not seem within the scope of the disclosed invention.

6. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recite "A pre-applied outer layer material according to claim 4, wherein said hotmelt further contains not more than 0 weight % of a polyolefin based on the weight of said hotmelt". The claim is indefinite because nothing is lower than 0 weight %.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1,2,4,-6,and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butterbach et al. (US 5,512,625).

Butterbach et al. teach a thermoplastic hot-melt adhesive that is useful in automotive fields such as roof and foam for head restraints (Column 4, lines 18-20). Moreover, the hot melt adhesive of Butterbach et al. is suitable for bonding plastics such as polypropylene and polyethylene (Column 4, lines 13-15). Regarding claims 1 and 8, the thermoplastic hot melt adhesive of Butterbach et al. comprises an amorphous poly alpha olefin (Column 2, line 42-43), tackifying resins (Column 3, lines 11-18), and a polypropylene wax disclosed by the trade name PP-Wachs or Hoechst Wachs PP 230

Art Unit: 1771

(Column 3, line 23 and Column 7, lines 9-10 of Table 2). With respect to the melting viscosity of poly alpha olefin of 500-100,000 mPa*s/190°C, Butterbach et al. teach Eastoflex P 1060 amorphous poly alpha olefin (see Column 2, line 44, Table 1 and Table 2). The melting viscosity of Eastoflex 1060 is 6000 cP at 190°C, as evidenced by the Table 1 of US 5,965,657. The melting viscosity of 6000 cp equates to 6000 mPa*s (using 1 cP = 1 mPa*sec). With respect to the softening point of the tackifier resin not less than 110°C using ring and ball method, although Butterbach et al. do not explicitly teach the softening point of the tackifier resin not lower than 110°C using ring and ball method, it is reasonable to presume that the tackifier resin of Butterbach et al. necessarily has the softening point of the tackifier resin not lower than 110°C determined by ring and ball method. Support for such presumption is found in the use of the like materials. For example the applicant is using Arkon resins as tackifier resins and Butterbach et al. also disclose the use of tackifier resins namely Arkon products (Column 3, line 17). Alternatively, since the inventions of Butterbach et al. and the applicant have the same utility, namely in the field of automobile trim materials therefore, the tackifier resin of Butterbach et al. would necessarily have the ring and ball softening point of not lower than 110°C in order to successfully practice the invention of Butterbach et al. Regarding the melting point of a polypropylene wax not lower than 120°C, although Butterbach et al. do not explicitly teach the melting point of a polypropylene wax not lower than 120°C, it is reasonable to presume that the polypropylene of Butterbach et al. has the melting point of not lower than 120°C

Art Unit: 1771

because like material has like property. Recall that Butterbach et al. teach Hoechst Wachs PP 230 wax which is a polypropylene wax (see Table 2 at Column 7).

With respect to the claim limitation of the weight ratio of (A) to (C) in the range of 100/50 to 100/100 and 100/30 to 100/60, Butterbach et al. teach the claimed invention except that the weight ratio of (A) to (C) in the range of 100/50 to 100/100 and 100/30 to 100/60, however since the concentration is recognized as a result-effective variable, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical or provides unexpected results. Therefore, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the weight ratio of A) to (C) in the range of 100/50 to 100/100 and 100/30 to 100/60, motivated by the desire to increase the tackiness of the hot melt composition. This is in line with *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) which holds that the discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claims 1, 2, 8, and 10, the plastics of polyethylene and polypropylene (Column 4, lines 18-20) coated with hot melt adhesive of Butterbach et al. read on the outer layer. With respect to claims 4 and 9, Butterbach et al. teach that the hot melt adhesive comprises 20 to 70% by weight of amorphous poly alpha olefin and 20 to 40% by weight of tackifiers (Column 3, lines 34-39), which read on the claimed ratio of (A) the amorphous poly alpha olefin to (B) the tackifier resin in the range of 100/50 to 100/80. Regarding claim 5, although Butterbach et al. do not teach the claimed

Art Unit: 1771

thickness of the hot melt in the range of 10-500 μm , it is known in the automotive industry to apply the hot melt adhesive having a thickness in the instantly claimed range as evidenced by US 5,180,628 which discloses the thickness of the hot melt adhesive in the range of 0.05 mm to 0.5 mm. The thickness of 0.05 mm to 0.5 mm equates to 50 μm to 500 μm (using 1 mm = 1000 μm).

8. Claims 1, 3, 6-8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haardt et al. (US 5,180,628) in view of Butterbach et al. (US 5,512,625).

Haardt et al. teach shock-absorbing propylene polymer composite molding that can be used for production of motor vehicles for example door panels, consoles, sun visors, bumpers, and spoilers (Column 3, lines 65-68). The shock absorbing molding propylene molding contains layer of polypropylene (a), an intermediate layer of hot melt adhesive based on olefin copolymer (b), propylene based foam layer (c), an intermediate layer of hot melt adhesive (d), and a propylene layer (e). Regarding claims 1,3, 7, and 11, the polypropylene layer (a) of Haardt et al. reads on the claimed outer layer material formed of thermoplastic sheet and the polypropylene foam layer (c) of Haardt et al. reads on the polyolefin foam layer jointed to the back surface thereof by adhesion as claimed in the instantly claimed subject matter.

Haardt et al. are silent as to teaching of an amorphous poly alpha olefin having melting viscosity in the range of 500-100,000 mPa*s/190°C, a tackifier resin having softening point determined by the ring and ball method of not lower than 110°C, and polypropylene wax having melting point of not lower than 120°C as main components

Art Unit: 1771

thereof, a weight ratio of (A) to (C) in the range of 100/50-100/100 as claimed in claims 1 and 8, weight ratio of (A) the amorphous poly alpha olefin to (B) the tackifier resin in the range of 100/10-100/100 as claimed in claim 8, and hotmelt as claimed in the claims 3 and 11. However, Butterbach et al. teach a thermoplastic hot-melt adhesive that is useful in automotive fields such as roof and foam for head restraints (Column 4, lines 18-20). Moreover, the hot melt adhesive of Butterbach et al. is suitable for bonding plastics such as polypropylene and polyethylene (Column 4, lines 13-15). The thermoplastic hot melt adhesive of Butterbach et al. comprises an amorphous poly alpha olefin (Column 2, line 42-43), tackifying resins (Column 3, lines 11-18), and a polypropylene wax PP-Wachs (Column 3, line 23 and Column 7, lines 9-10 of Table 2). With respect to the melting viscosity of poly alpha olefin of 500-100,000 mPa*s/190°C, Butterbach et al. teach Eastoflex P 1060 amorphous poly alpha olefin (see Column 2, line 44, Table 1 and Table 2). The melting viscosity of Eastoflex 1060 is 6000 cP at 190°C, as evidenced by the Table 1 of US 5,965,657. The melting viscosity of 6000 cp equates to 6000 mPa*s (using 1 cP = 1 mPa*sec). With respect to the softening point of the tackifier resin not less than 110°C using ring and ball method, although Butterbach et al. do not explicitly teach the softening point of the tackifier resin not lower than 110°C using ring and ball method, it is reasonable to presume that the tackifier resin of Butterbach et al. necessarily has the softening point of the tackifier resin not lower than 110°C determined by ring and ball method. Support for such presumption is found in the use of the like materials. For example the applicant is using Arkon resins as tackifier resins and Butterbach et al. also disclose the use of tackifier resins namely

Art Unit: 1771

Arkon products (Column 3, line 17). Alternatively, since the inventions of Butterbach et al. and applicant have the same utility, namely in the field of automobile trim materials to apply the hot melt adhesive over the components of an automotive interior trim, therefore the tackifier resin of Butterbach et al. would necessarily have the ring and ball softening point of not lower than 110°C in order to successfully practice the invention of Butterbach et al. Regarding the melting point of a polypropylene wax not lower than 120°C, although Butterbach et al. do not explicitly teach the melting point of a polypropylene wax not lower than 120°C, it is reasonable to presume that the polypropylene wax of Butterbach et al. has the melting point of not lower than 120°C because like material has like property. Note that Butterbach et al. teach Hoechst Wachs PP 230 wax which is a polypropylene wax (see Table 2 at Column 7).

Regarding claims 1 and 8, although Butterbach et al. do not explicitly teach the weight ratio of (A) to (C) in the range of 100/50 to 100/100, however since the concentration is recognized as a result-effective variable, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical or provides unexpected results. Therefore, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the weight ratio of (A) to (C) in the range of 100/50 to 100/100, motivated by the desire to increase the tackiness of the hot melt composition. This is in line with *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) which holds that the discovering the optimum or workable ranges involves only routine skill in the art. Additionally with

Art Unit: 1771

respect to claim 8, Butterbach et al. teach that the hot melt adhesive comprises 20 to 70% by weight of amorphous poly alpha olefin and 20 to 40% by weight of tackifiers (Column 3, lines 34-39), which read on the claimed ratio of (A) the amorphous poly alpha olefin to (B) the tackifier resin in the range of 100/50 to 100/100.

Thus, it would have been obvious to one having skill in the art to apply the hot melt adhesive of Butterbach et al. as discussed above as an intermediate hot melt adhesive layer d on the polypropylene foam layer, motivated by the desire to improve the adhesion between the propylene foam layer and the propylene layer of the shock-absorbing propylene polymer composite molding.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

APD



HAI VO
PRIMARY EXAMINER